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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/485,533	06/09/2000	EUGENIE CHARRIERE	004900-172	2035

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EXAMINER	
SERGENT, RABON A	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/485,533	CHARRIERE ET AL.	
	Examiner	Art Unit	
	Rabon Sergent	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *39-47,52-54,56-63,66,67 and 69-76* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *59-62,66,67 and 69-76* is/are allowed.

6)☒ Claim(s) *39-47,52-54,56-58 and 63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 39-47 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller et al. ('171).

Patentees disclose at column 3, lines 31-36 that dimerization of polyisocyanates may be performed in the absence of a catalyst by heating to temperatures of 120°C to 150°C. Patentees further disclose that aliphatic diisocyanates, such as hexamethylene diisocyanate, may be dimerized. See column 4, lines 20+.

3. Patentees are silent regarding applicants' claimed time frame, temperature gradient, and the removal of isocyanate monomers; however, the position is taken that each of the features amounts to an obvious modification that would have been obvious to one of ordinary skill in the art. With respect to applicants' claimed time frame, the position is taken that adjusting the heating time amounts to the obvious optimization of a result effective variable, since, at a given

temperature, one would have expected that conversion and the degree of ring cleavage is dependent upon reaction time. With respect to applicants' claimed temperature gradient, the position is taken that one would have been motivated to decrease the temperature as the reaction progressed, so as to decrease the cleavage of the uretdione groups. With respect to removal of the unreacted isocyanate monomers, such a practice has long been known as a means of decreasing the toxicity of the isocyanate composition; therefore, the removal of unwanted isocyanate monomers by such means as distillation would have been obvious.

4. Claims 52-54 and 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff et al. ('207) in view of Muller et al. ('171).

Wolff et al. disclose the production of low viscosity polyisocyanate compositions, wherein uretdione group containing polyisocyanates are modified by combining them with isocyanurates and by reacting them with alcohols to yield urethane-modified polyisocyanate compositions. Though Wolff et al. fail to disclose the production of the uretdiones in the absence of a catalyst, the reference serves to broadly teach how to formulate low viscosity polyisocyanates using uretdione compounds.

5. Given the teachings of Muller et al., the position is taken that it would have been obvious to utilize the catalyst-free method of Muller et al. to produce uretdiones, suitable for use in the primary reference, *in situ* or prior to combination with the other components. Furthermore, the position is taken that it would have been obvious to vary the sequence of addition or reaction, since such a modification would have amounted to an obvious process design choice or selection. It has been held that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. *In re Burhans*, 154 F.2d 690, 69

USPQ 330 (CCPA 1946). Lastly, given the structural similarities between the disclosed allophanate groups of Wolff et al. and biuret groups, the position is taken that it would have been additionally obvious to incorporate biuret groups into the composition of the primary reference.

6. Applicants' response has been considered; however, the rejections have been maintained for the aforementioned reasons. The examiner has considered applicants' provided Saunders et al. documentation; however, the documentation merely states that as of approximately 1962 (the copyright date of the documentation) dimers of aliphatic isocyanates had not been obtained. Furthermore, the Saunders et al. documentation does not recite the physical conditions recited within Muller et al. Accordingly, it is not seen that the Saunders et al. documentation establishes that heating the disclosed isocyanates, including the disclosed hexamethylene diisocyanate, to the disclosed temperature in the absence of a catalyst in accordance with the later method of Muller et al. would not have yielded the claimed uretidinedione modified isocyanates. Furthermore, it is not seen that passages within the prior art pertaining to aromatic species are particularly relevant to the non-aromatic species of the instant claims. Additionally, arguments with respect to low-viscosity or crystallization are not considered to be particularly relevant, since applicants' claims fail to exclude such viscosity modifiers as solvents and since it has not been established that quantities of crystallization are detrimental to obtaining a low-viscosity product. It is further noted that applicants' claims are not limited in terms of uretidinedione content; therefore, there need not be significant amounts of uretidinedione groups present within the prior art in order to meet the claims.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

RABON SERGENT
PRIMARY EXAMINER

R. Sergent
August 7, 2006